WMP-248/249

Medical Panel PC

USER'S MANUAL

P/N: 205G000WMP2480, V1.0

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Version Change History

Date	Version	Description	Remark
2014/4/17	1.0	First release	James.Chiu

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FCC Class B

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules.
These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a residential environment. This equipment generates, uses and can radiate radio frequency energy. If not installed and used in accordance with this user manual, it may cause harmful interference to radio communications.
Note that even when this equipment is installed and used in accordance with this user manual, there is still no guarantee that interference will not occur. If this equipment is believed to be causing harmful interference to radio or television reception, this can be determined by turning the equipment on and off. If interference is occurring, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna
- Increase the separation between the equipment and the receiver
- Connect the equipment to a power outlet on a circuit different from that to which the receiver is connected
- Consult the dealer or an experienced radio/TV technician for help

Warning:

Any changes or modifications made to the equipment which are not expressly approved by the relevant standards authority could void your authority to operate the equipment.

To avoid risk of electric shock, this equipment must only be connected to a supply mains with protective earth.

Do not modify this equipment without authorization of the manufacturer.

Safety Instructions

Intended use
The WMP-248/249 is intended to serve as a medical monitor which is designed for general purpose for hospital environment and for diagnosis. It could be used for Surgical, Radiology, PACS (Picture Archiving Communication Systems), LIS (Lab Information Systems) and Electronic Medical Record purpose. It shall not be used for life-supporting system.
WARNING: Critical diagnostic decision must not be based solely on images displayed by this device

Greeting & Setup
Thank you for purchasing the WMP-248/249 unit. We wish that this unit will be durable and reliable in providing your medical application needs. Please follow the instructions below to ensure the unit continues to have high performance.

Unpacking
After opening the carton, there will be a medical panel PC unit with an accessory box. Examine the contents to see if there are damages to the unit and if all accessories are present.

Setting up
Please read this manual carefully and remember to keep this manual for future reference.

Safety Instructions & Cleaning
The unit has undergone various tests in order to comply with safety standards. Inappropriate use of the open frame unit may be dangerous. Please remember to follow the instructions below to insure your safety during the installation and operating process.

Transporting & Placement of unit

1. When moving the unit on a cart; be very cautious. Quick stops, excessive forces and uneven surfaces may cause the cart to overturn thus risking the unit to fall to the ground.

2. If the medical panel PC unit does fall to the ground, immediately turn the power off and disconnect cords. Then contact a service technician for repairs. Continual use of the unit may result cause a fire or electric shock. Also, do not repair the unit on your own.
3. Having two or more people transporting the display unit is recommended. In addition, when installing the unit by suspending it also requires two or more people.
4. Before suspending the unit, make sure the material used for suspension is sturdy and stable. If not properly suspended, the display unit may fall and cause serious injury to people standing nearby as well as to the unit itself.
5. If you wish to mount the display unit, remember to use only the mounting hardware recommended by the manufacturer.

Electrical and Power Source Related

1. This medical panel PC unit must operate on a power source as shown on the specification label. If you are not sure what type of power supply used in the area, consult your dealer or local power supplier.
2. The power cords must not be damaged. Applied pressure, added heat, and tugging may damage the power cord.
3. The power cord must be routed properly when setup takes place. We advise that this aspect measure is to prevent people from stepping on the cords or while the unit is suspended to prevent flying objects from getting tangled with the unit.
4. Do not overload the AC outlets or extension cords. Electrical shocks or fires may occur from overloading.
5. Do not touch the power source during a thunderstorm.
6. If your hands are wet, do not touch the plug.
7. Use your thumb and index finger, grip firmly on the power cord to disconnect from the electrical socket. By pulling the power cord, may result in damaging it.

8. If the unit is not going to be in use for an extended period of time, remember to disconnect the unit.
9. The medical panel PC unit uses voltage between 100-240VAC. Connect the unit to a power source with the same numerical value as shown. Please use only the power cord provided by the dealer to ensure safety and EMC compliance.

Various Factors of Environment

1. Do not insert objects into the openings.
2. Do not have liquids seep into the internal areas of the medical panel PC unit.
3. Having liquids seep in or inserting objects into the unit may result in electric shocks from taking and/or short circuiting the internal parts.
4. Do not place the medical panel PC unit in the presence of high moisture areas.
5. Do not install the medical panel PC unit in a wet environment.
6. Do not place near unit near heat generating sources.
7. Do not place the unit in a location where it will come in contact with fumes or steam.
8. Remember to keep the medical panel PC unit away from the presence of dust.
9. If water has flow in or seep in, immediately disconnect the open frame unit. Then contact a service technician for repairs.

Ventilation Spacing

1. Do not cover or block the openings on the top and back sides of the display unit. Inadequate ventilation may cause overheating thus reducing the lifespan of the unit.
2. Unless proper ventilation is present, do not place unit in an enclosed area; such as a built-in shelf. Keep a minimum distance of 10 cm between the display unit and wall.

Cleaning the unit

1. Remember to turn off the power source and to unplug the cord from the outlet before cleaning the unit.
2. Carefully dismount the unit or bring the unit down from suspension to clean.
3. Please use a dry soft cloth to clean the unit.
4. Take a dry cloth and wipe the unit dry. Remember to avoid having liquids seep into the internal components and areas of the medical panel PC unit.

Servicing, Repairing, Maintenance & Safety Checks

1. If the unit is not functioning properly, observe the performance level of the display closely to determine what type of servicing is needed.
2. Do not attempt to repair the medical panel PC unit on your own. Disassembling the cover exposes users' to high voltages and other dangerous conditions. Notify and request a qualified service technician for servicing the unit.
3. To avoid risk of electric shock, this equipment must only be connected to a supply mains with protective earth.
4. If any of the following situations occur turn the power source off and unplug the unit. Then contact a qualified service technician.

   (a) A liquid was spilled on the unit or objects have fallen into the unit.

   (b) The unit is soaked with liquids.

   (c) The unit is dropped or damaged.

   (d) If smoke or strange odor is flowing out of the operating unit.

   (e) If the power cord or plug is damaged.

   (f) When the functions of the unit are dysfunctional.
5. When replacement parts are needed for the medical panel PC unit, make sure service technicians use replacement parts specified by the manufacturer, or those with the same characteristics and performance as the original

parts. If unauthorized parts are used it may result in starting a fire, electrical shock and/or other dangers.

	ISO 7000-0434 : Caution, consult ACCOMPANYING DOCUMENTS.
	ISO 7000-1641 : Follow operating instructions or Consult instructions for use.
	IEC 60417 -5009 : STAND-BY.
	IEC 60417-5031 : Direct current.
	EU-wide legislation, as implemented in each Member State, requires that waste electrical and electronic products carrying the mark (left) must be disposed of separately from normal household waste. This includes monitors and electrical accessories, such as signal cables or power cords. When you need to dispose of your display products, please follow the guidance of your local authority, or ask the shop where you purchased the product, or if applicable, follow any agreements made between yourself. The mark on electrical and electronic products only applies to the current European Union Member States.

When networking with electrical devices, the operator is responsible for ensuring that the resulting system meets the requirements set forth by the following standards:

– EN 60601-1 (IEC 60601-1)
Medical electrical equipment
Part 1: General requirements for safety

– EN 60601-1-1 (IEC 60601-1-1)
Medical electrical equipment
Part 1-1: General requirements for safety
Collateral standard: Safety requirements for
Medical electrical systems

– EN 60601-1-2 (IEC 60601-1-2)
Medical electrical equipment
Part 1-2: General requirements for safety
Collateral standard: Electromagnetic compatibility;
Requirements and tests

With Respect To Electric Shock, Fire And Mechanical Hazard Only In Accordance With ANSI/AAMI ES60601-1(2005, 3rd ed.) CAN/CSA C22.2 NO.60601-1(2008)

Accessory equipment connected to the analog and digital interfaces must be in compliance with the respective nationally harmonized IEC standards (i.e. IEC 60950 for data processing equipment, IEC 60065 for video equipment, IEC 61010-1 for laboratory equipment, and IEC 60601-1 for medical equipment.) Furthermore all configurations shall comply with the system standard IEC 60601-1-1. Everybody who connects additional equipment to the signal input part or signal output part configures a medical system, and is therefore, responsible that the system complies with the requirements of the system standard IEC 60601-1-1. The unit is for exclusive interconnection with IEC 60601-1 certified equipment in the patient environment and IEC 60XXX certified equipment outside of the patient environment. If in doubt, consult the technical services department or your local representative.

Caution:

DO NOT LEAVE THIS EQUIPMENT IN AN UNCONTROLLED ENVIRONMENT WHERE THE STORAGE TEMPERATURE IS BELOW -20° C (-4° F) OR ABOVE 60° C (140° F). THIS MAY DAMAGE THE EQUIPMENT.

This equipment shall not be used in life support systems.

The user is not to touch SIP/SOPs and the patient at the same time.

Caution – Use suitable mounting apparatus to avoid risk of injury.

The sound pressure level at the operator's position according to IEC 704-1:1982 is no more than 70dB (A).

A) Grounding reliability can only be achieved when the equipment is connected to an equivalent receptacle marked "Hospital Only" or "Hospital Grade".
B) Use a power cord that matches the voltage of the power outlet, which has been approved and complies with the safety standard of your particular country.
C) Caution: This adapter SPI FSP180-AHAM1 is a forming part of the medical device

Contact information:

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Introduction

Product Description

The WMP-248/249 Medical Panel PC are based on Intel *4th generation Core i* processor which can deliver faster graphic with higher CPU performance. It accommodates two SATA III devices and up to 16GB DDR3 SODIMM.

The high brightness LCD, Low noise (WMP-248) / Fanless (WMP-249) solution, integrated multimedia functions and extensive expansion options make them the perfect platform upon which to build comprehensive lifestyle computing applications.

The WMP-248/249 includes all the features of a powerful computer into a slim and attractive chassis. The WMP-248/249 has a 24" high brightness TFT display with 1920 x 1080 resolutions.

The WMP-248/249 is compact, Giga LAN and selectable WLAN network compatible PC with full safety and medical approval and features to control a dedicated system with a wide variety of applications. Combining the WMP-248/249 into your system can achieve both cost-saving and efficient improvements.

Common applications include Surgical, Radiology, PACS (Picture Archiving Communication Systems), LIS (Lab Information Systems) and Electronic Medical Record. The WMP-248/249 are definitely your perfect choices.

Package list

Before you begin installing your Medical Station, please make sure that the following items have been shipped:

- The WMP-248 or WMP-249 Medical Panel PC unit
- One DVD containing user manual, chipset drivers
- Power Adapter x 1 (Mf:SPI, type/model: FSP180-AHAM1)
- Power cord – Hospital grade used(US type), or other type in UK, EU…etc.
- Screw x 8 (VESA 75/100 use)

Features

- *On board 4th generation Intel® Core i7/i5/i3 processors*
- *Projective Capacitive Multi-touch screen (10 fingers)*
- *Seamless on the front side*
- *Easy wipe surfaces with no internal corners*
- *IP65 at front side, IPx1 for whole system*
- *24" (1920X1080) Diagnostic Panel*
- *2x DDR3/DDR3L SO-DIMM, Max. 16GB*
- *Two mini-PCIe expansion, one support mSATA via mini-PCIe (Thru SATA III)*
- *High speed USB3.0 ports*
- *Support CFast socket*
- *HDD Anti-vibration mechanism*
- *Low noise Smart fan solution*
- *Anti-bacteria (MRSA) plastic housing*
- *Built-in Battery backup function (option)*
- *Supports PCI-E x 16 or PCI expansion slot (option)*
- *Support isolated module by different configuration (optional order configuration)*

Specifications

Hardware Specifications

Display	24” 250 nits Full HD TFT LCD
CPU Support	**WMP-248** BGA1364 for 4th generation Intel® mobile Core i7/i5/i3 processor (37W max.) **WMP-249** BGA1364 for 4th generation Intel® mobile Core i5/i3 processor (25W max.)
Disk Drive Space	2.5” Hard Disk Drive (SATA III)
Expansion	Two Mini PCIe slot; One PCI-E expansion slot or PCI expansion slot (option)
Button	Power // Audio adjustment (+)(-) // brightness (+)(-) // Reading Light // Video input selection // LCD on/off // Clean me(auto release after 1 minute) // Fn
I/O	**Standard version** USB 3.0 x 4 , USB 2.0 x 2 RS232 x 1, RS232/RS422/RS485 x 1 (RS-485 auto flow support) RJ-45 Gigabit Ethernet x 2 3.5mm phone jack connector * 2 (Line-out, and Mic-in) DP video output x 2 DVI-D Video input x 1 Reset x 1 DC-in Jack x 1(with lock function) Two 5W speaker on back side **Isolated version** USB 3.0 x 4 RJ-45 Gigabit Ethernet x 1 3.5mm phone jack connector * 2 (Line-out, and Mic-in) DP video output x 2 DVI-D Video input x 1 Reset x 1 DC-in Jack x 1(with lock function) Two 5W speaker on back side Isolation: 4KV isolated RS-232 x 1, RS-232/422/485 x 1 4KV isolated USB 2.0 x 1 (Full speed) 4KV isolated Lan x 1 (Gigabit)

LCD Specifications

Model Name	*AUO M240HVN02.1*
Display Type	24" LED backlight LCD
Max. Resolution	1920 x 1080 (Full HD)
Contrast Ratio	3000 : 1 (Typ)
Pixel Pitch (um)	276.75 (per one triad) × 276.75
Luminance (cd/m2)	250 (TYP)
Viewing Angle	178°(H)
	178°(V)
Operating Temperature	0°C~ 40°C (32°F~104°F)
Brightness Control	Yes

Power Adapter Specifications

Power	Close-frame
MFR	SPI
Type	FSP180-AHAM1
Input Voltage	100-240Vac, 50-60Hz, 2.3-0.8A
Output Voltage	DC 12V @ 15 A
MTBF	611,222 hrs operation at 25°C

Mechanical Specifications

Architecture	Close-frame
Front Bezel	PCT touch
Color	Medical-white
Mounting / Holder	VESA 75/100mm
Construction	3mm ABS + PC TYPE Plastic housing
Dimension (WxHxD)	606 x 398 x 65.6 mm
Net Weight	WMP-248: 8.5kg (w/o power adapter) WMP-249: 9.0kg (w/o power adapter)
Packing Filler	PE

Environmental Specifications

Temperature	Operating: 0°C to 40°C (32°F ~104°F) Storage, Transportation: -20°C to 60°C (-4°F ~140°F)

Humidity	Operating: 10% to 90%@ 40°C, non-condensing Storage, Transportation: 10% to 90%, non-condensing
Vibration	Operating: 15g/0.53 oz, 11 ms, half sine wave Non-operating: 50g/1.76 oz, 11 ms, half sine wave
Shock	Operating: 5 ~ 17 Hz , Amplitude：0.117 ~ 500Hz , Acceleration：1.0G Non-operating:10~55Hz/0.15g, 55~500Hz/2.0g
Altitudes	Operational: up to 3000 m (9842 feet) Shipping: up to 12192 m (40000 feet)
Pressure	700 – 1060 hPa (Operation) 186 – 1060 hPa (Storage) 186 – 1060 hPa (Transportation)
Input Power Rating	For Adaptor: AC100~240 V, 1.25 – 0.5A, @47 ~ 63 Hz. For Unit: DC 12V, 15A
Power Consumption	WMP-248: 134W(Typ.) WMP-249: 106W(Typ.)

Touch Screen

Configuration 1 - P.cap touch (10 fingers)

Type	Full flat projective capacitive touch panel
Interface	Controller with USB interface, 5V
Resolution	100ppi to 25ppi Based WIN7 definition ppi (Pixel per inch)
Light Transmission	90% ± 3%
Life Time	100M times

Guidance and manufacturer's declaration – electromagnetic emissions		
The model WMP-248/249 is intended for use in the electromagnetic environment specified below. The customer or the user of the model WMP-248/249 should assure that it is used in such an environment.		
Emissions test	**Compliance**	**Electromagnetic environment – guidance**

RF emissions CISPR 11		The model WMP-248/249 uses RF energy only for its internal function. Therefore, its RF emissions are very low and are not likely to cause any interference in nearby electronic equipment.
RF emissions CISPR 11		The model WMP-248/249 is suitable for use in all establishments, including domestic establishments and those directly connected to the public low-voltage power supply network that supplies buildings used for domestic purposes.
Harmonic emissions IEC 61000-3-2		
Voltage fluctuations/ flicker emissions IEC 61000-3-3		

Recommended separation distances between portable and mobile RF communications equipment and the model WMP-248/249

The model WMP-248/249 is intended for use in an electromagnetic environment in which radiated RF disturbances are controlled. The customer or the user of the model WMP-248/249 can help prevent electromagnetic interference by maintaining a minimum distance between portable and mobile RF communications equipment (transmitters) and the model WMP-248/249 as recommended below, according to the maximum output power of the communications equipment.

Rated maximum output power of transmitter W	**Separation distance according to frequency of transmitter** m		
	150 kHz to 80 MHz $d = 1{,}2\sqrt{P}$	**80 MHz to 800 MHz** $d = 1{,}2\sqrt{P}$	**800 MHz to 2,5 GHz** $d = 2{,}3\sqrt{P}$
0,01	0,12	0,12	0,23
0,1	0,38	0,38	0,73
1	1,2	1,2	2,3
10	3,8	3,8	7,3
100	12	12	23

For transmitters rated at a maximum output power not listed above, the recommended separation distanced in meters (m) can be estimated using the equation applicable to the frequency of the transmitter, where *P* is the maximum output power rating of the transmitter in watts (W) according to the transmitter manufacturer.

NOTE 1 At 80 MHz and 800 MHz, the separation distance for the higher frequency range applies.

NOTE 2 These guidelines may not apply in all situations. Electromagnetic propagation is affected by absorption and reflection from structures, objects and people.

Guidance and manufacturer's declaration – electromagnetic immunity

The model WMP-248/249 is intended for use in the electromagnetic environment specified below. The customer or the user of the model WMP-248/249 should assure that it is used in such an environment.

Immunity test	**IEC 60601 test level**	**Compliance level**	**Electromagnetic environment – guidance**
Electrostatic discharge (ESD) IEC 61000-4-2	±6 kV contact ±8 kV air	±6 kV contact ±8 kV air	Floors should be wood, concrete or ceramic tile. If floors are covered with synthetic material, the relative humidity should be at least 30 %.
Electrical fast transient/burst IEC 61000-4-4	±2 kV for power supply lines ±1 kV for input/output lines	±2 kV for power supply lines ±1 kV for input/output lines	Mains power quality should be that of a typical commercial or hospital environment.
Surge IEC 61000-4-5	±1 kV line(s) to line(s) ±2 kV line(s) to earth	±1 kV line(s) to line(s) ±2 kV line(s) to earth	Mains power quality should be that of a typical commercial or hospital environment.

interruptions and voltage variations on power supply input lines IEC 61000-4-11	<5 % *U*T (>95 % dip in *U*T) for 0,5 cycle 40 % *U*T (60 % dip in *U*T) for 5 cycles 70 % *U*T (30 % dip in *U*T) for 25 cycles <5 % *U*T (>95 % dip in *U*T) for 5 sec	<5 % *U*T (>95 % dip in *U*T) for 0,5 cycle 40 % *U*T (60 % dip in *U*T) for 5 cycles 70 % *U*T (30 % dip in *U*T) for 25 cycles <5 % *U*T (>95 % dip in *U*T) for 5 sec	Mains power quality should be that of a typical commercial or hospital environment. If the user of the model WMP-248/249 requires continued operation during power mains interruptions, it is recommended that the model WMP-248/249 be powered from an uninterruptible power supply or a battery.
Power frequency (50/60 Hz) magnetic field IEC 61000-4-8	3 A/m	3 A/m	Power frequency magnetic fields should be at levels characteristic of a typical location in a typical commercial or hospital environment.
NOTE *U*T is the a.c. mains voltage prior to application of the test level.			

Guidance and manufacturer's declaration – electromagnetic immunity

The model WMP-248/249 is intended for use in the electromagnetic environment specified below. The customer or the user of the model WMP-248/249 should assure that it is used in such an environment.

Immunity	IEC 60601 test level	Compliance level	Electromagnetic environment – guidance

Conducted RF IEC 61000-4-6 Radiated RF IEC 61000-4-3	3 Vrms 150 kHz to 80 MHz 3 V/m 80 MHz to 2,5 GHz	Vrms V/m	Portable and mobile RF communications equipment should be used no closer to any part of the model WMP-248/249, including cables, than the recommended separation distance calculated from the equation applicable to the frequency of the transmitter. **Recommended separation distance** $d = 1,2\sqrt{P}$ $d = 1,2\sqrt{P}$ 80 MHz to 800 MHz $d = 2,3\sqrt{P}$ 800 MHz to 2,5 GHz where *P* is the maximum output power rating of the transmitter in watts (W) according to the transmitter manufacturer and *d* is the recommended separation distance in meters (m). Field strengths from fixed RF transmitters, as determined by an electromagnetic site survey, [a] should be less than the compliance level in each frequency range. [b] Interference may occur in the vicinity of equipment marked with the following symbol:

NOTE 1 At 80 MHz and 800 MHz, the higher frequency range applies.

NOTE 2 These guidelines may not apply in all situations. Electromagnetic propagation is affected by absorption

and reflection from structures, objects and people.

[a] Field strengths from fixed transmitters, such as base stations for radio (cellular/cordless) telephones and land mobile radios, amateur radio, AM and FM radio broadcast and TV broadcast cannot be predicted theoretically with accuracy. To assess the electromagnetic environment due to fixed RF transmitters, an electromagnetic site survey should be considered. If the measured field strength in the location in which the model WMP-248/249 is used exceeds the applicable RF compliance level above, the model WMP-248/249 should be observed to verify normal operation. If abnormal performance is observed, additional measures may be necessary, such as reorienting or relocating the model WMP-248/249.

[b] Over the frequency range 150 kHz to 80 MHz, field strengths should be less than 3 V/m.

Cleaning/Disinfecting

Steps:

1. Wipe the WMP-248/249 with a dry clean cloth.

2. Prepare agent per manufacturer's instructions or hospital protocol.

Cautions:

- Do not immerse or rinse the WMP-248/249 and its peripherals. If you accidentally spill liquid on the device, disconnect the unit from the power source. Contact your Biomed regarding the continued safety of the unit before placing it back in operation.
- Do not spray cleaning agent on the chassis.
- Do not use disinfectants that contain phenol.
- Do not autoclave or clean the WMP-248/249 or its peripherals with strong aromatic, chlorinated, ketone, ether, or Esther solvents, sharp tools or abrasives. Never immerse electrical connectors in water or other liquids.

Getting Started

System Set Up

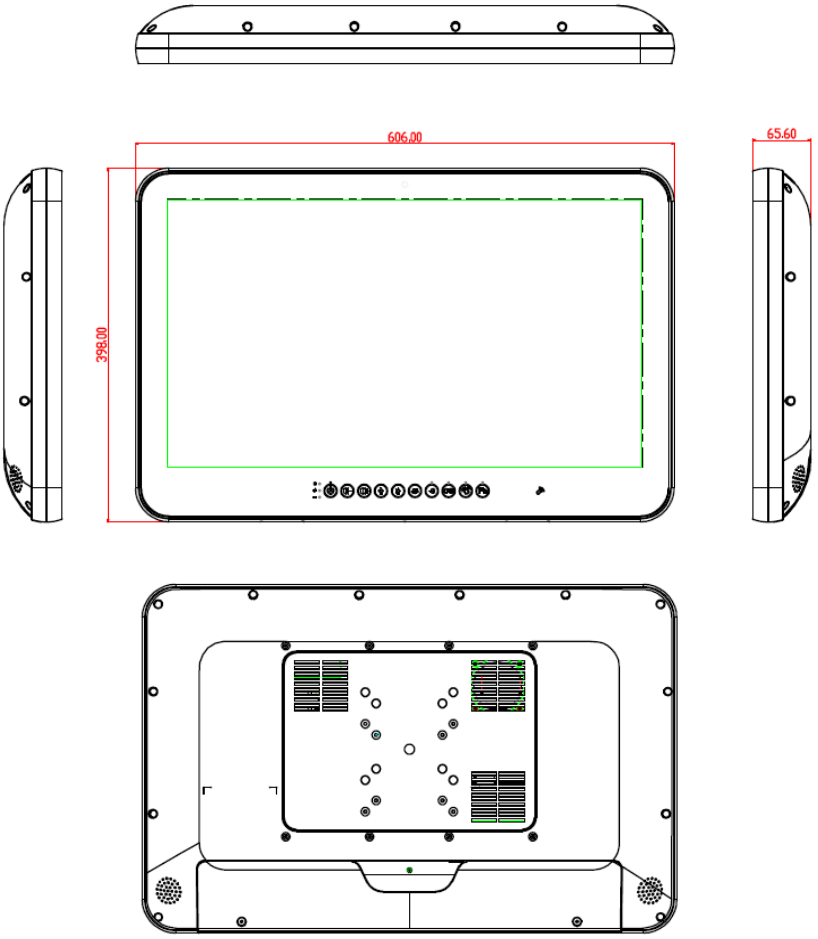
The following is a summary of the steps in setting up the system for use.

(1). You can fix the system to a mounting fixture using the screw holes on the sides of the system.
(2). Make any required external connections such as the display, keyboard, and LAN.
(3). Plug the appropriate end of the power cord into the power connector on the rear of the system and the plug to an electrical outlet.
(4). ***Waiting for 3 seconds*** then press the power switch on the front panel of the system once to turn on the system power.
(5). If necessary, run the BIOS SETUP programs to configure the system.

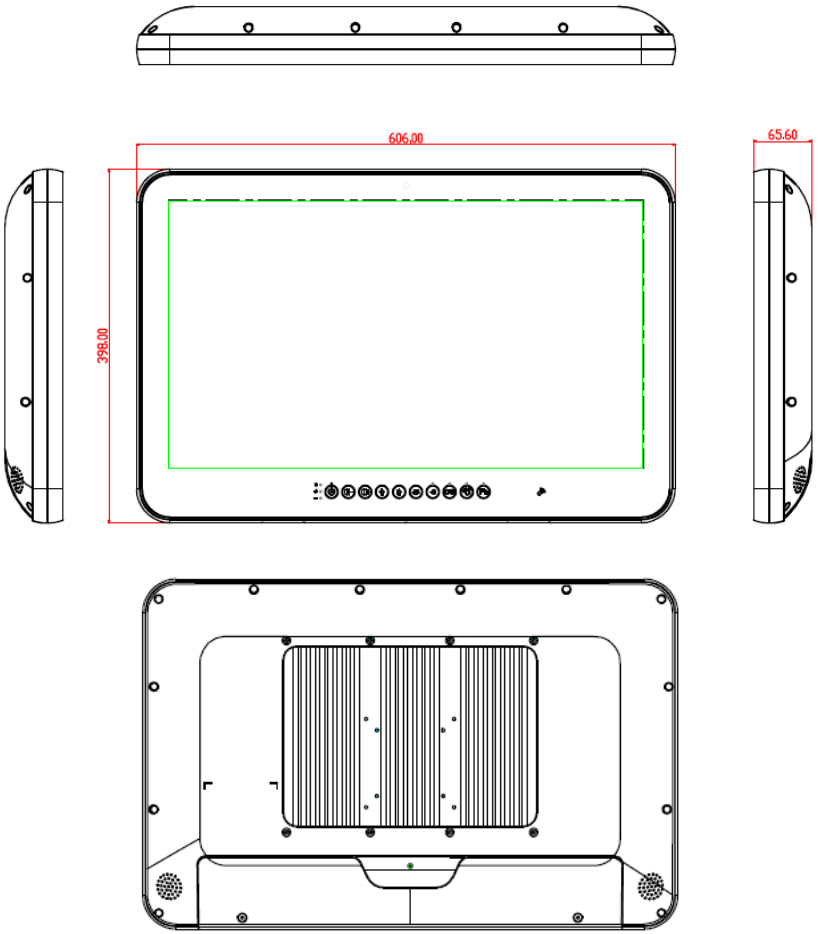
> ***Caution:***
> *In order to boot up system from USB-CD/DVD drive, please connect USB-CD/DVD drive, turn on computer power, keep on pressing "F11" key, go into BIOS quick boot menu, select "USB-CD ROM", WAIT FOR 20 SECONDS, then press enter, system OS will boot up from USB-CD/DVD drive directly.*

Dimension

WMP-248
(VESA Mount Screw type: M4)

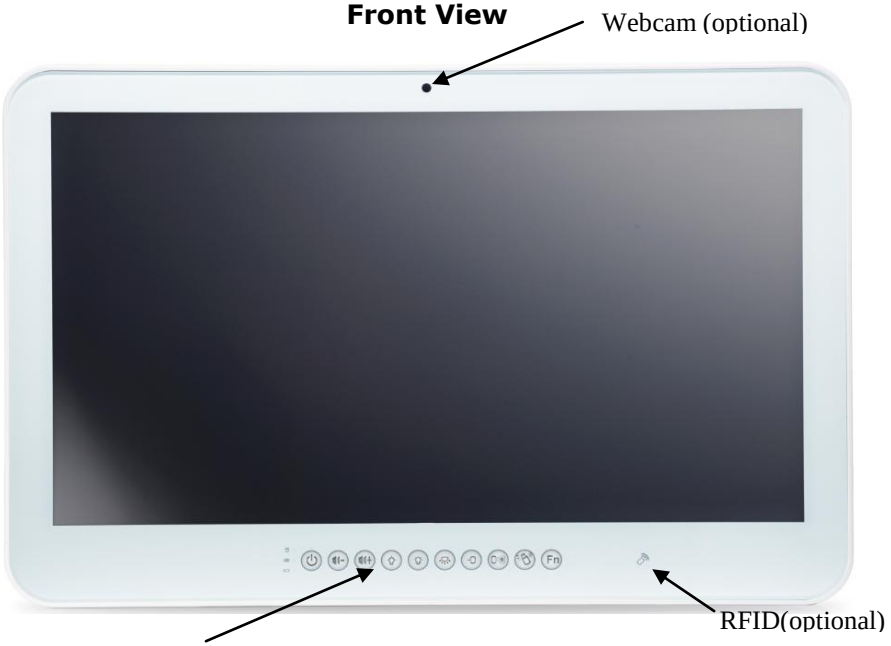


WMP-249
(VESA Mount Screw type: M4)



System View

Front View



Hotkey and LED definition at front panel

Located on Touch screen bottom side, from left to right, front view
1-1. Up. HDD: Yellow
1-2 Down. Battery1(Green) & Battery2(Yellow):

	LED 1	LED 2
	(Charge/Discharge/Low)	(Batt present/ not present)
In charge	blinking	ON
Discharge	OFF	ON
Full charge	ON	ON
Low battery	blinking	blinking
No battery	OFF	OFF

2. Power Button (with LED status indicator: ON: Green, OFF: dark)
Operation: always on.

Suspend: Flash 2(light)/2(dark) sec.

3. Volume adjustment (-)

4. Volume adjustment (+)

5. Brightness (-)

6. Brightness (+)

7. Reading light

8. Video input selection (with LED status indicator: ON: Green->DVI input, OFF: dark->PC mode)

	PC mode	*DVI input*	*Remark*
Sys power off	*No any message*	*1. No connect - 60S message off (no connection)* *2. No signal -60S message off (cable connected, but no signal input)* *3. DVI input - message for 3 sec.*	
Sys power on	*PC mode forcibly*	*Switch to PC mode when sys power on*	
In Windows	*Message for 3 sec*	*Same as power off*	

9. LCD on/off (with LED status indicator: LCD ON: dark, LCD OFF: Green)

10. Clean me (with LED status indicator: ON: Yellow, OFF: dark)

a. Keep on contacting 5 seconds to active

b. keep contacting 5 seconds to release

c. auto release after 60 seconds

11. Fn: Function key (with LED status indicator: ON: Green, OFF: dark)

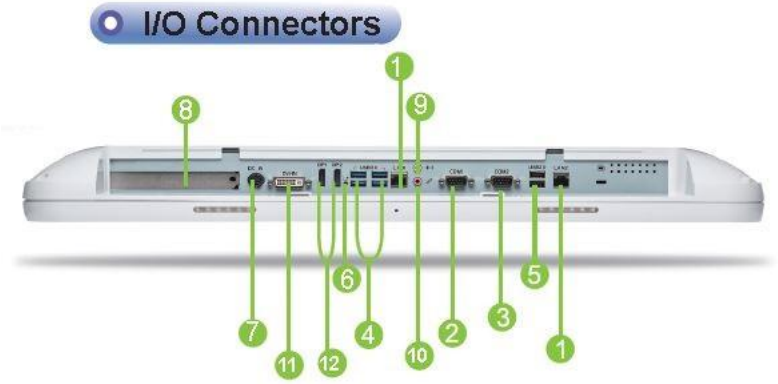
Side View

Standard model without door	Customized model with DVD (or Smart card reader)

Rear View

WMP-248 (Fan)	WMP-249 (Fanless)

I/O parts (Standard version)



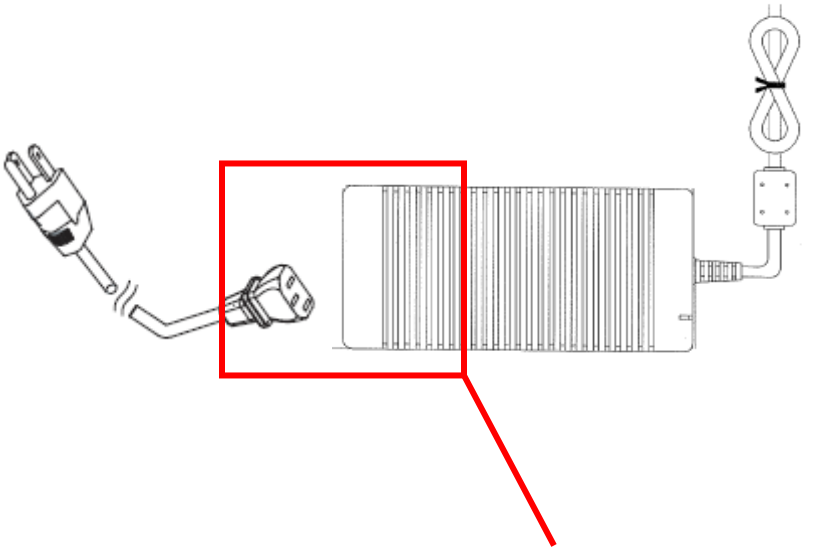
1. LAN x 2
2. RS232/422/485
3. RS232
4. USB 3.0 x 4
5. USB 2.0 x 2
6. Reset
7. DC-in
8. PCI-E/PCI expansion
9. Line-out
10. Microphone-in
11. DVI-D (Input)
12. DP Port x 2 (Output)
13. DVD (Option)

I/O parts (Isolated version)

isolation

isolated COM	*4KV isolated RS-232 x 1, RS-232/422/485 x 1*
isolated USB	*4KV isolated USB 2.0 x 1 (Full speed)*
isolated LAN	*4KV isolated Lan x 1 (Gigabit)*

Disconnect Device



Unplug the power cord from the power adapter jack to disconnect the device.

BIOS Setup

BIOS Introduction

The AMI BIOS (Basic Input / Output System) installed in your computer system's ROM supports Intel processors. The BIOS provides critical low-level support for a standard device such as disk drives, serial ports and parallel ports. It also adds virus and password protection as well as special support for detailed fine-tuning of the chipset controlling the entire system.

BIOS Setup

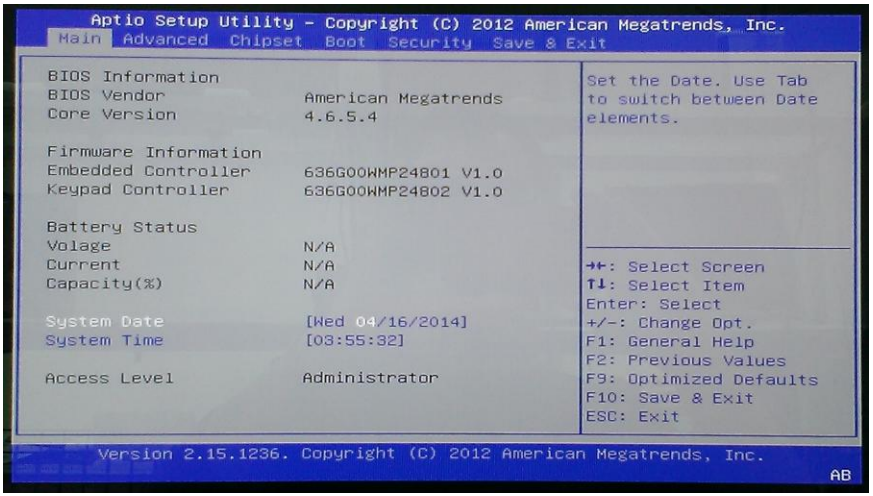
The AMI BIOS provides a Setup utility program for specifying the system configurations and settings. The BIOS ROM of the system stores the Setup utility. When you turn on the computer, the AMI BIOS is immediately activated. Pressing the <Del> key immediately allows you to enter the Setup utility. If you are a little bit late pressing the <Del> key, POST (Power On Self Test) will continue with its test routines, thus preventing you from invoking the Setup. If you still wish to enter Setup, restart the system by pressing the "Reset" button or simultaneously pressing the <Ctrl>, <Alt> and <Delete> keys. You can also restart by turning the system Off and back On again. The following message will appear on the screen:

Press <DEL> to Enter Setup

In general, you press the arrow keys to highlight items, <Enter> to select, the <PgUp> and <PgDn> keys to change entries, <F1> for help and <Esc> to quit.

When you enter the Setup utility, the Main Menu screen will appear on the screen. The Main Menu allows you to select from various setup functions and exit choices.

Main



This section provides information on the BIOS information, and Battery information

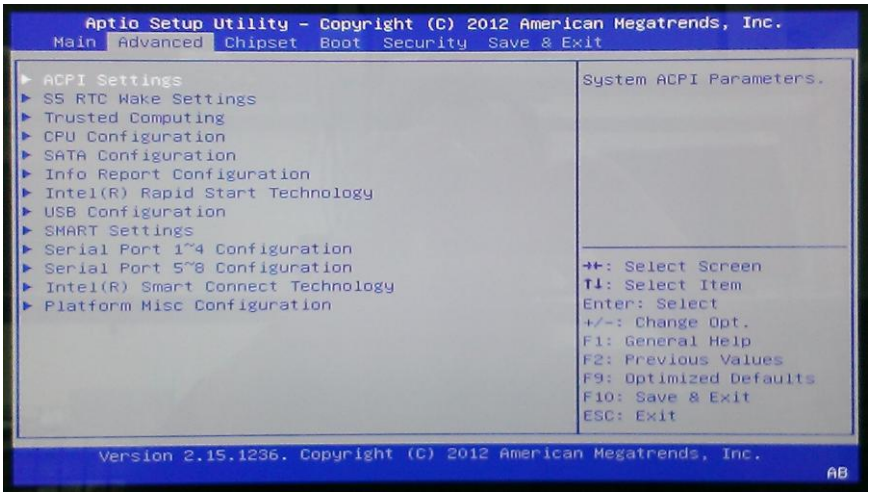
System Date

Set the system date. Use the <Tab> key to switch between data elements.

System Time

Set the system time. Use the <Tab> key to switch between time elements.

Advanced



ACPI Settings

Enable ACPI Auto Configuration

Enables or Disables BIOS ACPI Auto Configuration.

Enable Hibernation

Enables or Disables System ability to Hibernate (OS/S4 Sleep State). This option may be not effective with some OS.

ACPI Sleep State

Select the highest ACPI sleep state the system will enter,

Lock Legacy Resources

Enables or Disables Lock of Legacy Resources.

S3 Video Repost

Enables or Disables S3 Video Repost.

S5 RTC Wake Settings

Wake System with Fixed Time

Enables or disables system wake on alarm event. When enabled, the system will wake on the time specified.

Wake system with Dynamic Time

Enables or disables system wake on alarm event. When enabled, the system will wake on the current time+Increase minute(s).

Trusted Computing

Security Device support

Enables or disables BIOS support for security device.

CPU Configuration

Hyper-Threading

Enabled for Windows XP and Linux (OS optimized for Hyper-Threading Technology) and Disabled for other OS (OS optimized for Hyper-Threading Technology)

Active Processor Cores

Number of cores to enable in each processor package.

Execute Disable Bit

XD can prevent certain classes of malicious buffer overflow attacks when combined with a supporting OS (Windows Server 2003 SP1, Windows XP SP2, SuSE Linux 9.2, RedHat Enterprise 3 Update 3.)

Intel Virtualization Technology

When enabled, a VMM can utilize the additional hardware capabilities provided by Vanderpool Technology

EIST

Enable/Disable Intel speedstep

Turbo Mode

When enabled, the processor will run above its base operating frequency via dynamic control of the CPU's clock rate. The increased clock rate is limited by the processor's power, current and thermal limits

SATA Configuration

SATA Controller(s)

Enable or disable SATA device.

SATA Mode Selection

Select a configuration for SATA controller.

Aggressive LPM Support

Enable PCH to aggressively enter link power state.

SATA Controller Speed

Indicates the maximum speed the SATA controller can support.

Software Feature Mask Configuration

RAID OROM/RST driver will refer to the SWFM configuration to enable or disable the storage features.

Info Report Configuration

System configuration information report. It includes Post report/Error message report/Summary report

USB Configuration

Legacy USB Support

Enables Legacy USB support. AUTO option disables legacy support if no USB devices are connected. DISABLE option will keep USB devices available only for EFI applications

USB3.0 Support

Enable/Disable USB3.0(XHCI) controller support.

XHCI Hand-off

This is a workaround for 0Ses without XHCI hand-off support. The XHCI ownership change should be claimed by XHCI driver.

EHCI Hand-off

This is a workaround for 0Ses without EHCI hand-off support. The EHCI ownership change should be claimed by EHCI driver.

USB Mass Storage Driver Support

Enable/Disable USB Mass Storage Driver Support.

SMART Settings

SMART Self Test

Run SMART Self Test on all HDDs during POST.

Serial Port 1~4 Configuration

Serial Port 1 Configuration

Set Parameters of Serial Port 1.

Serial Port 2 Configuration

Set Parameters of Serial Port 2.

Serial Port 3 Configuration

Set Parameters of Serial Port 3.

Serial Port 4 Configuration

Set Parameters of Serial Port 4.

Serial Port 5~6 Configuration(Optional)

Serial Port 5 Configuration

Set Parameters of Serial Port 5.

Serial Port 6 Configuration

Set Parameters of Serial Port 6.

Intel(R) Smart Connect Technology

ISCT Support

Enable/Disable Intel Smart Connect

ISCT Notification Control

Enable/Disable ISCT notification control

ISCT WLAN Power Control

Enable/Disable ISCT power control

ISCT WWAN Power Control

Enable/Disable ISCT wireless wide area network power control

Platform Misc Configuration

Native PCIE Enable

PCI Express native support. This feature is only available in Vista.

Native ASPM

If enabled, Vista will control the ASPM support for the device. If disabled, BIOS will.

ACPI 5.0 CPPC Support

Enable ACPI 5.0 collaborative control (CPPC) support. When Enabled, platform exposes CPPC interfaces to operating system. When Disabled, Platform exposes legacy (non-CPPC) processor interfaces to Operating System.

Lock key click time

Number of seconds to press lock key to (un)active. 1~10 seconds mean press hold time.

Locked Status Hold Time

Number of minutes to keep lock status. 0 means lock always.1~100 minutes mean lock hold time.

Power key

Vol+/- key

Backlight+/- key

Reading light key

Display switch key

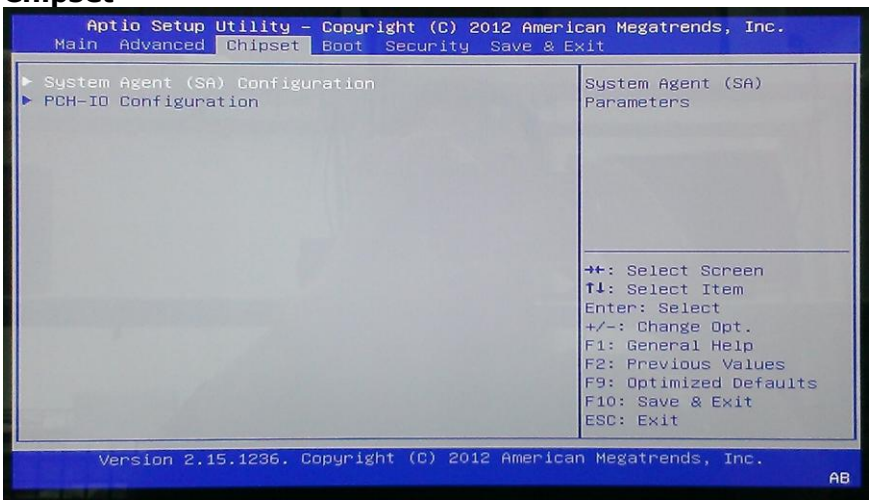
LCD backlight key

Lock key

Fn key

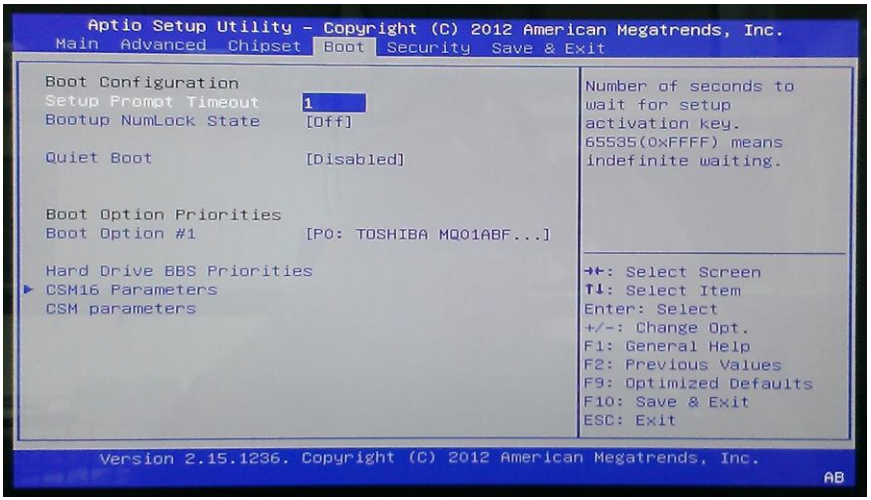
Enable/Disable relative key function

Chipset



System Agent (SA)/PCH-IO Configuration
This screen provides information on System Agent and PCH parameters.
PCH-IO Configuration
PCH parameters

Boot


Aptio Setup Utility – Copyright (C) 2012 American Megatrends, Inc.
Main Advanced Chipset Boot Security Save & Exit
Boot Configuration
Setup Prompt Timeout 1
Bootup NumLock State [Off]
Quiet Boot [Disabled]
Boot Option Priorities
Boot Option #1 [P0: TOSHIBA MQ01ABF...]
Hard Drive BBS Priorities
CSM16 Parameters
CSM parameters
Number of seconds to wait for setup activation key. 65535(0xFFFF) means indefinite waiting.
→←: Select Screen
↑↓: Select Item
Enter: Select
+/-: Change Opt.
F1: General Help
F2: Previous Values
F9: Optimized Defaults
F10: Save & Exit
ESC: Exit
Version 2.15.1236. Copyright (C) 2012 American Megatrends, Inc.
AB

Setup Prompt Timeout

Number of seconds to wait for setup activation key. 65535(0xFFFF) means indefinite waiting.

Bootup Numlock State

Selects the keyboard NumLock state.

Quiet Boot

Allows you to determine whether to display the Logo at system startup. Disabled displays normal POST message.

Hard Drive BBS Priorities

Set the order of the legacy devices in this group

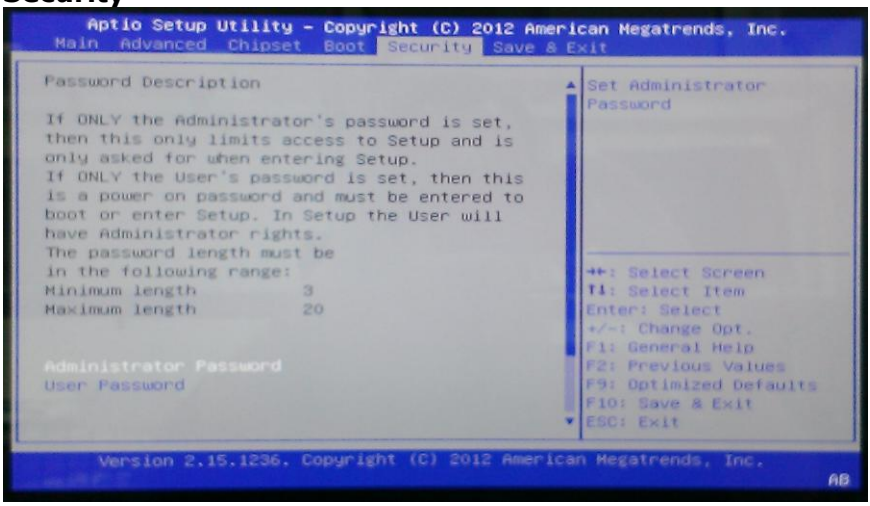
CSM16 Parameters

Enable/Disable option ROM execution settings, etc.

CSM parameters

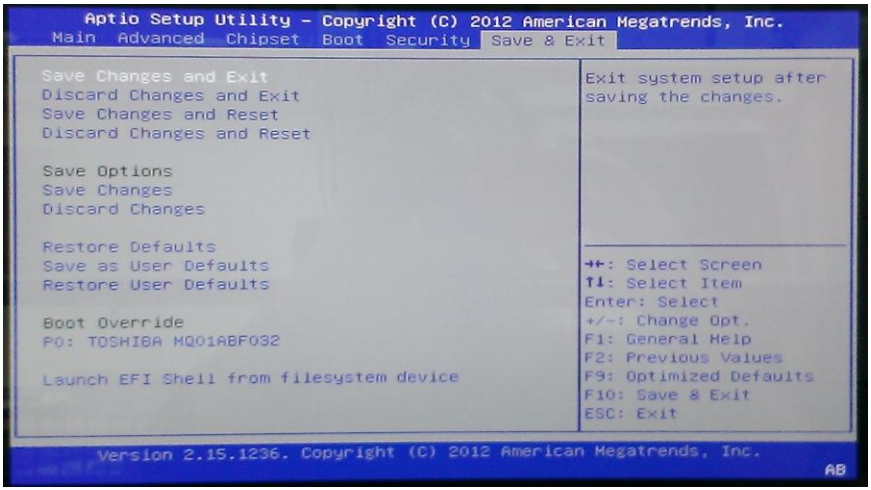
Option ROM execution, boot options filter, etc.

Security


Aptio Setup Utility – Copyright (C) 2012 American Megatrends, Inc.
Main Advanced Chipset Boot Security Save & Exit
Password Description
If ONLY the Administrator's password is set, then this only limits access to Setup and is only asked for when entering Setup.
If ONLY the User's password is set, then this is a power on password and must be entered to boot or enter Setup. In Setup the User will have Administrator rights.
The password length must be in the following range:
Minimum length 3
Maximum length 20
Administrator Password
User Password
Set Administrator Password
→←: Select Screen
↑↓: Select Item
Enter: Select
+/-: Change Opt.
F1: General Help
F2: Previous Values
F9: Optimized Defaults
F10: Save & Exit
ESC: Exit
Version 2.15.1236. Copyright (C) 2012 American Megatrends, Inc.
AB

Enables or disables the security chip. It is recommended that you use this function with the Administrator/User password.

Save & Exit



Save Changes and Exit
Exit system setup after saving the changes.

Discard Changes and Exit
Exit system setup without saving any changes.

Save Changes and Reset
Reset the system after saving the changes.

Discard Changes and Reset
Reset system setup without saving the changes.

Save Changes
Save the changes done so far to any of setup options.

Discard Changes
Discard the changes done so far to any of setup options.

Restore Defaults
Restore/load default values for all the setup options.

Save as User Defaults
Save the changes done so far as User Defaults.

Restore User Defaults
Restore the User Defaults to all the setup options.

Launch EFI Shell From filesystem device
Attempts to Launch EFI Shell application (Shellx64.efi) from one of the available filesystem devices.

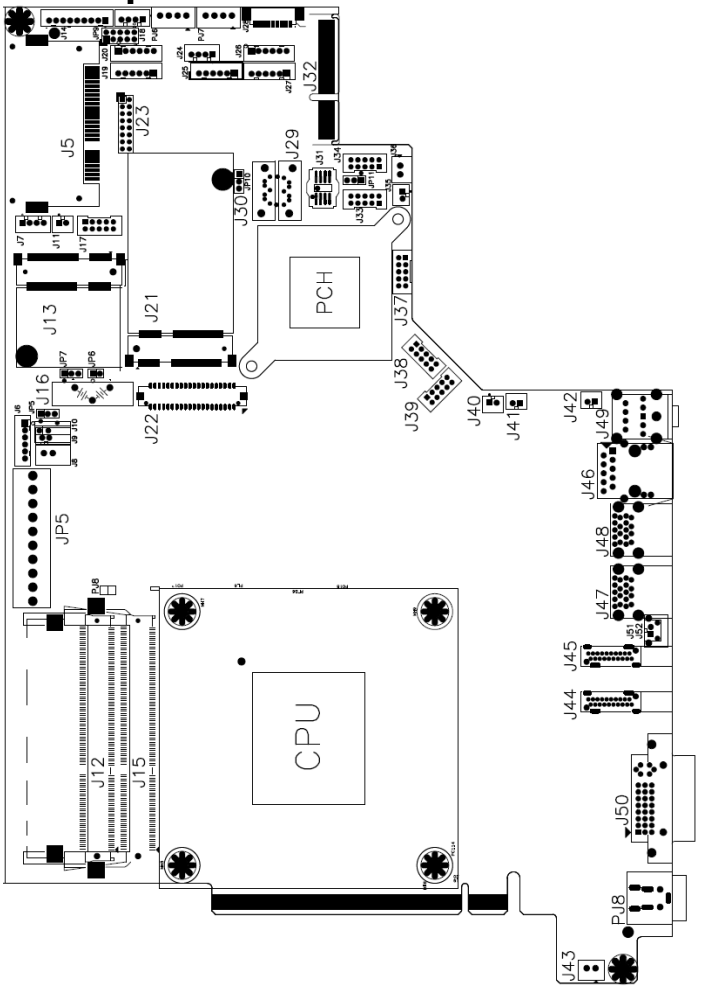
Appendix

A. Jumper settings and Connectors

This appendix gives the definitions and shows the positions of jumpers, headers and connectors. All of the configuration jumpers on WMP-248/249 are in the proper position.

Note: Some of jumpers or connectors will be removed base on system configuration.

➢ Jumper and Connector Definition Block



JP5 –Backlight Adjust

Description	Jumper Setting
analog Inverter	***1-2 (default)***
PWM Inverter	2-3

JP6 –CMOS Clear

Description	Jumper Setting
Normal Open	***1-2 (default)***
CMOS Clear	2-3

JP7 –TPM Settings

Description	Jumper Setting
Clear ME RTC registers	1-2
Keep ME RTC registers	***OPEN (default)***

JP8– DRAM Voltage

Description	Jumper Setting
+1.35VS	***OPEN (default)***
+1.5VS	1-2

JP9 –Touch Panel Type Selection

Description	Jumper Setting
3M type	***1-2, 3-4 (default)***
ELO type	5-6,7-8

JP10 –SATA or SATA DOM Selection

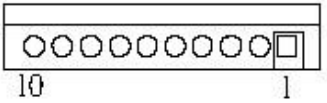
Description	Jumper Setting
SATA DOM	1-2 ---power +5V
SATA	***2-3(default)--- GND***

JP11 – RS-232 TTL Voltage

Description	Jumper Setting
+5VS	***2-3(default)***
+12VS	1-2

➢ Connector Definition

PJ5 – HDD Power Connector

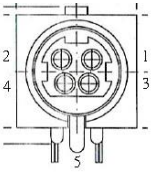


Pin #	Signal Description
1	BATT+
2	BATT+
3	BATT+
4	BATT_T
5	BATT_CLK
6	BATT_DAT
7	BATT_EN#
8	Ground
9	Ground
10	Ground

PJ6 /PJ7 – HDD Power Connector

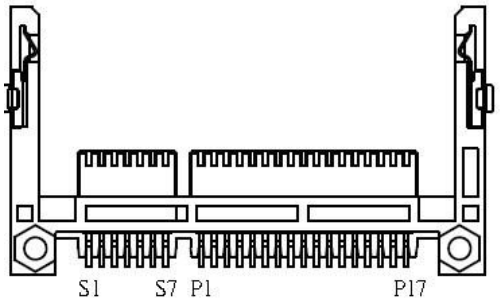
Pin #	Signal Description
1	+12VS
2	Ground
3	Ground
4	+5VS

JP8 – Power Jack Connector



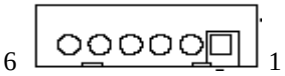
Pin #	Signal Description
1	DC In
2	DC In
3	Ground
4	Ground
5	Ground

J5 – CFast Interface



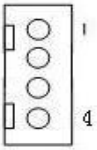
Pin #	Signal Description
S1	GND
S2	A+
S3	A-
S4	GND
S5	B-
S6	B+
S7	GND
P1	CDI
P2	GND
P3	KEEP
P4	KEEP
P5	KEEP
P6	KEEP
P7	GND
P8	KEEP
P9	KEEP
P10	KEEP
P11	TBD
P12	IFDET
P13	PWR
P14	PWR
P15	GND
P16	GND
P17	CDO

J6 – LCD Inverter Interface



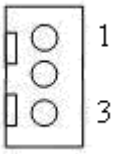
Pin #	Signal Description
1	+12VSB
2	+12VSB
3	Backlight Adjust
4	Backlight Enable
5	Ground
6	Ground

J7 – SDP (EC Simple Debug Port)



Pin #	Signal Description
1	+5V
2	P80_DAT
3	P80_CLK
4	Ground

J8 – PCI POWER

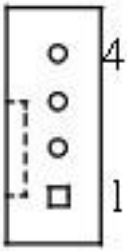


Pin #	Signal Description
1	+5V
2	Ground
3	+5V

J9,J18 – PWM CPU FAN, SYSTEM FAN

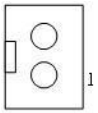
Pin #	Signal Description	
	J9(CPU)	J18(SYSTEM)
1	CPU PWM	SYS PWM
2	CPU RPM	SYS RPM
3	VCPUFAN	VSYSFAN
4	GND	GND

J10 – PWM CPU FAN



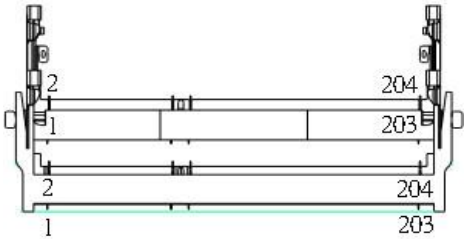
Pin #	Signal Description
	J10(CPU) 2.54mm
1	GND
2	VCPUFAN
3	CPU RPM
4	CPU PWM

J11 – EC Reset



Pin #	Signal Description
1	VCC_POR#
2	GND

J12 / J15 –DDR3 SO-DIMM Interface

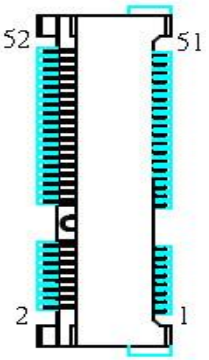


J15→ H9.2 Near CPU
J12→ H5.2 Near External

Pin	Symbol	Pin	Symbol	Pin	Symbol
1	VREFDQ	69	DQ27	137	DQS4
3	VSS	71	VSS	139	VSS
5	DQ0	73	CKE0	141	DQ34
7	DQ1	75	VDD	143	DQ35
9	VSS	77	NC	145	VSS
11	DM0	79	BA2	147	DQ40
13	VSS	81	VDD	149	DQ41
15	DQ2	83	A12	151	VSS
17	DQ3	85	A9	153	DM5
19	VSS	87	VDD	155	VSS
21	DQ8	89	A8	157	DQ42
23	DQ9	91	A5	159	DQ43
25	VSS	93	VDD	161	VSS
27	DQS1#	95	A3	163	DQ48
29	DQS1	97	A1	165	DQ49
31	VSS	99	VDD	167	VSS
33	DQ10	101	CK0	169	DQS6#
35	DQ11	103	CK0#	171	DQS6
37	VSS	105	VDD	173	VSS
39	DQ16	107	A10	175	DQ50
41	DQ17	109	BA0	177	DQ51
43	VSS	111	VDD	179	VSS
45	DQS2#	113	WE#	181	DQ56
47	DQS2	115	CAS#	183	DQ57
49	VSS	117	VDD	185	VSS
51	DQ18	119	A13	187	DM7
53	DQ19	121	NC	189	VSS
55	VSS	123	VDD	191	DQ58
57	DQ24	125	NC	193	DQ59

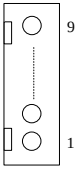
59	DQ25	127	VSS	195	VSS
61	VSS	129	DQ32	197	SA0
63	DM3	131	DQ33	199	VDDSPD
65	VSS	133	VSS	201	SA1
67	DQ26	135	DQS4#	203	VTT
Pin	Symbol	Pin	Symbol	Pin	Symbol
2	VSS	70	DQ31	138	VSS
4	DQ4	72	VSS	140	DQ38
6	DQ5	74	NC	142	DQ39
8	VSS	76	VDD	144	VSS
10	DQS0#	78	NC	146	DQ44
12	DQS0	80	NF/A14	148	DQ45
14	VSS	82	VDD	150	VSS
16	DQ6	84	A11	152	DQS5#
18	DQ7	86	A7	154	DQS5
20	VSS	88	VDD	156	VSS
22	DQ12	90	A6	158	DQ46
24	DQ13	92	A4	160	DQ47
26	VSS	94	VDD	162	VSS
28	DM1	96	A2	164	DQ52
30	RESET#	98	A0	166	DQ53
32	VSS	100	VDD	168	VSS
34	DQ14	102	CK1	170	DM6
36	DQ15	104	CK1#	172	VSS
38	VSS	106	VDD	174	DQ54
40	DQ20	108	BA1	176	DQ55
42	DQ21	110	RAS#	178	VSS
44	VSS	112	VDD	180	DQ60
46	DM2	114	S0#	182	DQ61
48	VSS	116	ODT0	184	VSS
50	DQ22	118	VDD	186	DQS7#
52	DQ23	120	NC	188	DQS7
54	VSS	122	NC	190	VSS
56	DQ28	124	VDD	192	DQ62
58	DQ29	126	VREFCA	194	DQ63
60	VSS	128	VSS	196	VSS
62	DQ3#	130	DQ36	198	EVENT#
64	DQ3	132	DQ37	200	SDA
66	VSS	134	VSS	202	SCL
68	DQ30	136	DM4	204	VTT

J13 – mini PCI Express Socket(HALF)



Pin #	Signal Description	Pin #	Signal Description
1	WAKE#	2	+3.3VSB
3	Reserved	4	GND
5	Reserved	6	+1.5VS
7	CLKREQ#	8	Reserved
9	GND	10	Reserved
11	REFCLK-	12	Reserved
13	REFCLK+	14	Reserved
15	GND	16	Reserved
17	Reserved	18	GND
19	Reserved	20	Reserved
21	GND	22	PERST#
23	PERn0	24	+3.3VSB
25	PERp0	26	GND
27	GND	28	+1.5VS
29	GND	30	SMB_CLK
31	PETn0	32	SMB_DATA
33	PETp0	34	GND
35	GND	36	USB_D-
37	GND	38	USB_D+
39	+3.3VSB	40	GND
41	+3.3VSB	42	Reserved
43	GND	44	Reserved
45	CL_CLK	46	Reserved
47	CL_ DATA	48	+1.5VS
49	Controller Link RST#	50	GND
51	Reserved	52	+3.3VSB

J14 – Resistor Touch Panel Interface

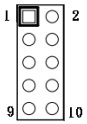


Pin #	Signal Description		
	8-wire	4-wire	5-wire
1	UL(X+)	UL(X+)	UL(X+)
2	UR(Y+)	UR(Y+)	UR(Y+)
3	N/A	N/A	PROBE
4	LR(X-)	LR(X-)	LR(X-)
5	LL(Y-)	LL(Y-)	LL(Y-)
6	X+_DRIVE	N/A	N/A
7	Y+_DRIVE	N/A	N/A
8	X-_DRIVE	N/A	N/A
9	Y-_DRIVE	N/A	N/A

J16 – Battery Socket

Pin #	Signal Description
1	RTC +3.3V
2	GND

J17 – EC JTAG



Pin #	Signal Description	Pin #	Signal Description
1	EC_TRST#	2	+3.3VSB
3	EC_TMS	4	EC_RDY#
5	EC_TDI	6	GND
7	EC_TCK	8	GND
9	EC_TDO	10	GND

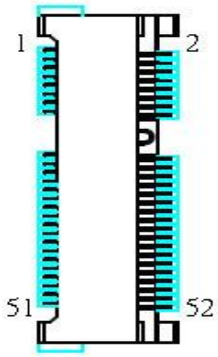
J19/J20/J26/J27 – Internal USB 5V Interface

Pin #	Signal Description
1	+5VSB
2	+5VSB
3	Data -
4	Data +
5	Ground
6	Ground

J25–Internal USB 5V Interface. Support EC control Disable/Enable USB Function

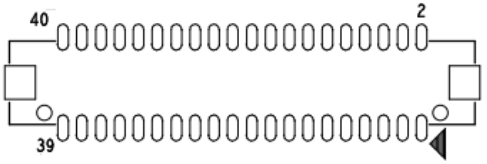
Pin #	Signal Description
1	+5VSB
2	+5VSB
3	Data -
4	Data +
5	Ground
6	Ground

J21 – mini PCI Express / mSATA Socket



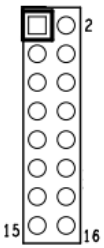
Pin #	Signal Description	Pin #	Signal Description
1	WAKE#	2	+3.3VSB
3	Reserved	4	GND
5	Reserved	6	+1.5VS
7	CLKREQ#	8	Reserved
9	GND	10	Reserved
11	REFCLK-	12	Reserved
13	REFCLK+	14	Reserved
15	GND	16	Reserved
17	Reserved	18	GND
19	Reserved	20	Reserved
21	GND	22	PERST#
23	PERp0	24	+3.3VSB
25	PERn0	26	GND
27	GND	28	+1.5VS
29	GND	30	SMB_CLK
31	PETn0	32	SMB_DATA
33	PETp0	34	GND
35	GND	36	USB_D-
37	GND	38	USB_D+
39	+3.3VSB	40	GND
41	+3.3VSB	42	Reserved
43	SEL_PCIE_SATA	44	Reserved
45	CL_CLK	46	Reserved
47	CL_ DATA	48	+1.5VS
49	Controller Link RST#	50	GND
51	Reserved	52	+3.3VSB

J22 – LVDS Interface



Pin #	Signal Description	Pin #	Signal Description
1	+LCD (+5V/ +3.3V)	2	+LCD (+5V/ +3.3V)
3	+LCD (+5V/ +3.3V)	4	+LCD (+5V/ +3.3V)
5	Ground	6	Ground
7	Ground	8	Ground
9	A_RxIn0-	10	B_RxIn0-
11	A_RxIn0+	12	B_RxIn0+
13	Ground	14	Ground
15	A_RxIn1-	16	B_RxIn1-
17	A_RxIn1+	18	B_RxIn1+
19	Ground	20	Ground
21	A_RxIn2-	22	B_RxIn2-
23	A_RxIn2+	24	B_RxIn2+
25	Ground	26	Ground
27	A_CKIN-	28	B_CKIN-
29	A_CKIN+	30	B_CKIN+
31	Ground	32	Ground
33	A_RxIn3-	34	B_RxIn3-
35	A_RxIn3+	36	B_RxIn3+
37	Ground	38	Ground
39	Ground	40	Ground

J23 –TPM / ID-394

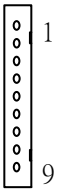


Pin #	Signal Description	Pin #	Signal Description
1	LPC AD0	2	PCI reset#
3	LPC AD1	4	SERIRQ
5	LPC AD2	6	+3.3V
7	LPC AD3	8	+5VSB
9	LPC Frame#	10	PCI CLKRUN#
11	Debug CLK	12	SMB CLK
13	GND	14	SMB DATA
15	SUS_STAT#	16	+3.3VSB

J24 – POWER & HDD LED

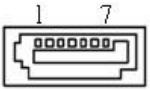
Pin #	Signal Description
1	SATA LED#
2	+3.3VSB
3	+3.3VSB
4	Power LED#

J28 – CAP Front Bezel Button Connector



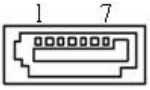
Pin #	Signal Description
1	+5VSB
2	+3.3VSB
3	KP_SCL
4	KP_SDA
5	PWR_LED#
6	Programmable_LED
7	SATA_LED#
8	Ground
9	Ground

J29 – Standard SATA Interface



Pin #	Signal Description
1	Ground
2	Tx+
3	Tx-
4	Ground
5	Rx-
6	Rx+
7	Ground

J30 – Standard SATA / SATA DOM Interface



Pin #	Signal Description
1	Ground
2	Tx+
3	Tx-
4	Ground
5	Rx-
6	Rx+
7	Ground / +5V

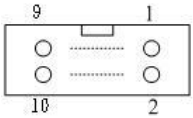
J31 –BIOS SOCKET

Pin #	Signal Description	Pin #	Signal Description
1	CS#	5	SI
2	SO	6	SCK
3	WP#	7	HOLD#
4	VSS	8	VDD

J32–PCIE X4 Slot Interface

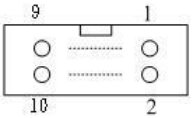
Pin #	Side B	Side A	Pin #	Side B	Side A
1	+5VSB	+3.3VSB	17	Ground	USBPN6
2	+5VSB	+3.3VSB	18	UARTCLK2_33M	Ground
3	+5VSB	+3.3VSB	19	Ground	Ground
4	+5VSB	+3.3VSB	20	232_RI#	Ground
5	+5VSB	+3.3VSB	21	Ground	USBPP7
6	+5VSB	+3.3VSB	22	Ground	USBPN7
7	Ground	Ground	23	PCIE_RXN6	Ground
8	LPC_AD0	+5VS	24	PCIE_RXP6	COM_CONF2
9	LPC_AD1	+5VS	25	Ground	COM_CONF3
10	LPC_AD2	+3.3VS	26	Ground	CLKRQ#_LAN2
11	LPC_AD3	COM_CONF 1	27	PCIE_TXN6	Ground
12	LPC_FRAME#	USB_PWRE N	28	PCIE_TXP6	Ground
13	PLT_RST#	Ground	29	Ground	LANCLK2_100MN
14	SERIRQ	USB_OC#67	30	PCIE_WAKE#	LANCLK2_100MP
15	Ground	Ground	31	Ground	Ground
16	UARTCLK2_48M	USBPP6	32	Ground	Ground

J33,J37,J38,J39 – COM4, COM3, COM2, COM1 Serial Port



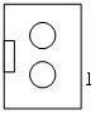
Pin #	Signal Description	Pin #	Signal Description
1	232_DCD#	2	232_DSR#
3	232_SIN	4	232_RTS#
5	232_SOUT	6	232_CTS#
7	232_DTR#	8	232_RI#
9	GND	10	+5VS

J34 – RS-232 TTL Connector



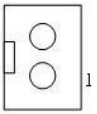
Pin #	Signal Description	Pin #	Signal Description
1	DCD#	2	DSR#
3	SIN	4	RTS#
5	SOUT	6	CTS#
7	DTR#	8	RI#
9	GND	10	+5VS/+12VS

J35 – Power Switch connect



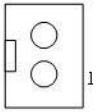
Pin #	Signal Description
1	Power ON
2	GND

J36,J43 – Reading Light



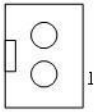
Pin #	Signal Description
1	+12VSB
2	READING LIGHT

J40,J41 – Speaker Connect



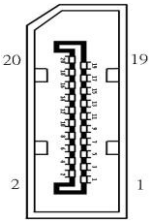
Pin #	Signal Description
1	AMP. Out +
2	AMP. Out -

J42 – Internal MIC



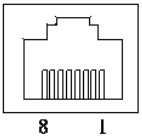
Pin #	Signal Description
1	Signal
2	AGND

J44,J45 – DisplayPort Interface



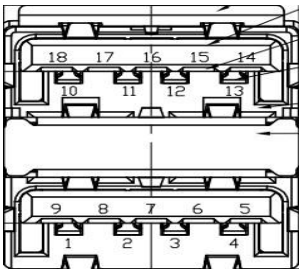
Pin #	Signal Description	Pin #	Signal Description
1	ML_LANE0+	11	GND
2	GND	12	ML_LANE3-
3	ML_LANE0-	13	CONFI G1
4	ML_LAN1+	14	CONGI G2
5	GND	15	AUX_CH+
6	ML_LAN1-	16	GND
7	ML_LANE2+	17	AUX_CH-
8	GND	18	HOT PLUG
9	ML_LANE2-	19	RETURN
10	ML_LANE3+	20	+3.3VS

J46 – Ethernet Port



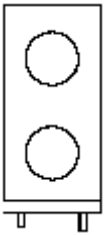
Pin #	Signal Description
1	Data0+
2	Data0-
3	Data1+
4	Data2+
5	Data2-
6	Data1-
7	Data3+
8	Data3-

J47,J48 – USB3.0 Port



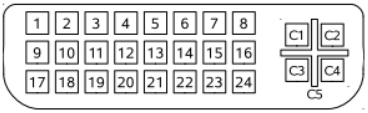
Pin #	Signal Description	Pin #	Signal Description
1	+5V	10	+5V
2	Data1-	11	Data2-
3	Data1+	12	Data2+
4	GND	13	GND
5	SSRX1-	14	SSRX2-
6	SSRX1+	15	SSRX2+
7	GND	16	GND
8	SSTX1-	17	SSTX2-
9	SSTX1+	18	SSTX2+

J49 – Power Switch connect



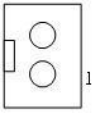
	Signal Description
UP	Microphone (stereo) Pink
DOWN	Line Out (stereo) Green

J50 – VEDIO-IN Interface



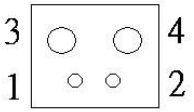
Pin #	Signal Description	Pin #	Signal Description
1	TMDS Data2-	2	TMDS Data2+
3	GND	4	NC
5	NC	6	SCL
7	SDA	8	NC
9	TMDS Data1-	10	TMDS Data1+
11	GND	12	NC
13	NC	14	+5V
15	DVI_DET	16	Hot Plug Detect
17	TMDS Data0-	18	TMDS Data0+
19	GND	20	NC
21	NC	22	GND
23	TMDS Clock+	24	TMDS Clock-
C1	NC	C2	NC
C3	NC	C4	NC
C5	GND	C6	GND

J51 – Reset connector



Pin #	Signal Description
1	SYS_RESET#
2	GND

J52 – Reset Button



Pin #	Signal Description
1	SYS_RESET#
2	GND
3	GND
4	GND

B. L type Stand (optional kit)

Key Features and Benefits

- Similar color as WMP series
- 10 degree tilt down and 30 degree tilt up solution
- 5,000 times hinge life cycle

Specifications:

Weight Capacity:	Max 10kgs
Monitor Mounting Holes	VESA 75*75mm or 100*100mm
Application using	Desktop stand

C. Battery Pack Specifications (optional kit)

Battery Model	BP-WMP226 22/3900 SA
Battery Type	Li-ion 2S2P
Minimum Capacity	3900 mAh
Nominal Voltage	7.2 V
Max. Charge Voltage	8.4V
Cut Off Voltage	6.0v
Suggested Charge Current (Max.)	2A
System Continuous Discharging Current (Max.)	16.6 A
The End of Charge Condition	150 mA/min
Discharge Protection	UVP/OCP
Charge Protection	OVP/OTP
Self-discharge Rate	10uA ~800 uA
Dimensions	133 x 47 x 21mm
Weight	220g+/-20g
Ambient Temperature	0°C ~ +45°C
Storage Temperature	-20°C ~ +60°C
Energy	28.08Wh
Backup	100 W/ 10 min

D. Scrap Computer Recycling

If the computer equipments need the maintenance or are beyond repair, we strongly recommended that you should inform us as soon as possible for the suitable solution. For the computers that are no longer useful or work well, please contact with worldwide distributors for recycling.

The worldwide distributors show on the following website:
http://www.wincomm.com.tw/contact.aspx

Note:
Follow the national requirement to dispose unit